

the field programmable gate array being configured to receive data from each of the plurality of signal output channels in parallel.

3. The color measuring device as set forth in claim 1 further comprising a plurality of optical filters each being paired with one of the plurality of photodetectors, each of the filter/photodetector pairs having a responsivity which extends over different overlapping wavelength regions at longer wavelength ends of a visible spectrum.

4. The color measuring device as set forth in claim 3 further comprising a translator  
10 converting the responsivity of said pairs into a responsivity mimicking a color matching function from which a tri-stimulus value can be provided when said pairs are exposed to light to be colorimetrically measured.

5. The color measuring device as set forth in claim 3 wherein said  
15 filter/photodetector pairs provide a plurality of long-wavelength-pass electro-optical filters.

6. The color measuring device as set forth in claim 3 wherein said filter/photodetector pairs are disposed in an array.

20 7. The color measuring device as set forth in claim 3 wherein one of said filter/photodetector pairs has a responsivity extending over an entire visible spectrum.

8. A colorimeter for measuring color temperature comprising:

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a plurality of filter/photodetector pairs, each having a responsivity which extends over different overlapping wavelength regions at longer wavelength ends of a spectrum, a color temperature of which is to be measured by said colorimeter;

a field programmable gate array programmed to accumulate the responsivity from each of the plurality of filter/photodetector pairs in parallel; and

a translator converting the responsivity into a responsivity mimicking a color matching function from which values can be provided representing said color temperature.

9. The colorimeter according to claim 8 wherein said spectrum is from an emissive source.

10. The colorimeter according to claim 9 wherein said emissive source includes one of a light source, a video display, a radiating body and a black body.

11. The colorimeter according to claim 8 wherein the field programmable gate array includes:

means for receiving the responsivity from each of the plurality of filter/photodetector pairs in parallel;

means for accumulating the responsivity over a predetermined time period; and

means for outputting the responsivity accumulated.

12. A process for measuring a color of an object comprising the steps of:  
filtering light from the object with a plurality of filters;

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detecting the filtered light and generating a plurality of light signals representative of the filtered light detected;

reading the plurality of light signals in parallel; and

generating output signals based on the plurality of light signals read which represent the color of the object.

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13. The process as set forth in claim 12 wherein the reading includes accumulating the plurality of light signals for a selected time period.

10 14. The process as set forth in claim 12 wherein the plurality of filters having a light transmission response being non-uniformly distributed across a visible spectrum and each overlapping at longer wavelengths of the visible spectrum.

Respectfully submitted,

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